

PROGRESS OF MEDICAL SCIENCE.

MEDICINE.

UNDER THE CHARGE OF
WILLIAM OSLER, M.D.,

REGIUS PROFESSOR OF MEDICINE, OXFORD UNIVERSITY, ENGLAND,

AND

W. S. THAYER, M.D.,

PROFESSOR OF CLINICAL MEDICINE, JOHNS HOPKINS UNIVERSITY, BALTIMORE, MARYLAND.

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Methods of Diagnosis of Anterior Poliomyelitis from Spinal Fluid and Blood.—GAY and LUCAS (*Arch. Int. Med.*, 1910, vi, 330) have attempted to find a method of diagnosis from the blood or cerebrospinal fluid in cases of anterior poliomyelitis, both in monkeys and human beings. They proceed along two lines of investigation—the examination of the blood or spinal fluid by recognized clinical methods, and testing the fluids by certain biological reactions of immunity. In the acute stage the leukocyte count showed a consistent and early fall. Previous to this, in the incubation and prodromal periods, it was quite stationary. The average of fifty differential counts in the acute stage was: Polymorphonuclears, 40 per cent.; large mononuclears, 15 per cent.; lymphocytes, 40 per cent.; eosinophiles, 5 per cent.; a slight lymphocytosis, and slight eosinophilia. In the spinal fluid were more characteristic changes. There was a marked increase in the number of cells during the incubation and prodromal stages and the early days of the acute period, being highest in the prodromal stage. These cells were at first mononuclears and were later replaced by polymorphonuclears. A fibrin clot appeared in the early and acute stages, but disappeared later. These findings agreed in both monkeys and human beings. The serum tests corroborated and extended the negative findings of Wollstein. There was no evidence of antibodies in the serum of monkeys taken at intervals during the acute disease or in the serum of unsuccessfully inoculated monkeys. There was, as well, no evidence of antigen in the spinal fluids of monkeys or of human beings at various stages in the disease, or in the blood serum.

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Surgical Treatment of Duodenal Ulcers.—VAUTRIN (*Archiv. gén. d. chir.*, 1910, vi, 771) says that in the treatment of cicatricial stenoses of the duodenum, so often complicated by the presence of atonic ulcerous lesions which are subjected to unexpected and sudden accidents, palliative operations should be preferred, such as gastro-enterostomy, which can diminish the dangers of the lesions but cannot entirely eliminate them. It is preferable to have recourse to operations which avoid the complications, that is to say, exclude the duodenum, or to duodenectomy, which gives complete security. Yet in valuing the surgical measures to be employed in the different cases, one ought to be guided by the importance and extent of the lesions, the resistance of the subjects, the age and the fear of complications and degenerations. The indications for resection will be fewer than those for exclusion, which, however, does not take into account the extension of the affection to a long portion of the duodenum, to neighboring organs nor their fixation. Exclusion with gastro-enterostomy will then be generally executed. Resection will be reserved for the rare cases in which the cicatricial stenosis is confined to the descending portion of the duodenum without close and resistant adhesion with the neighboring organs. It is especially against the recent duodenal ulcer in evolution that duo-

denectomy finds its most useful indications. This will be the operation of the future. Under these conditions circular resection is not surrounded by the same difficulties as when there is a chronic periduodenitis. Moynihan has already shown its value.

Four Attempts at Arteriovenous Anastomosis.—MAUCLAIRE (*Arch. gen. d. chir.*, 1910, vi, 815) reports four unsuccessful efforts to improve the vascular conditions in senile gangrene by arteriovenous anastomosis. The analysis of them shows that they were unfavorable cases for this method of treatment. In the first the force of the arterial current was too weak to overcome the valves in the femoral vein, and this with the roughened condition of the internal coat of the artery, explains the consecutive arterial thrombosis. The temporary ligature employed may also have been at fault. In the second case the thrombosis extended high in the femoral artery. In the third and fourth cases the hyperpressure in this artery justified the application of the permanent ligature to the artery because it was thought that the sutures would not withstand the blood pressure. Mauclore believes that arteriovenous anastomosis has a very limited application in senile gangrene. It seems that the degenerative changes in the artery are often so marked that one cannot be certain that clotting in the artery will not occur. Probably better conditions are necessary for the success of this operation than exist in the cases of senile gangrene in which it has been done up to the present time. It should be done early, when the blood has sufficient pressure to force the valves of the veins and to reach the capillaries. It may prove that transplantation of a vein will be preferable to arteriovenous anastomosis, since the vein may take on characteristics of an artery.

The Treatment of Chronic Gonorrhœal Urethritis.—JUNGANO (*Ann. d. mal. d. org. gén.-urin.*, 1910, ii, 1315 and 1453) says that there is no one method of treatment. In chronic gonorrhœa the employment of disinfectants is justified only when the lesions are superficial. Generally it happens that through the gland ducts or the superficial lymphatics laid bare by inappropriate treatment, the infection passes deeply, when the disinfectants will prove ineffective. On the other hand, the body can react against microbic infection, and various anatomical lesions are found. All therapeutic measures which are limited in their action to the surface only will be insufficient, and in the deeper and more chronic lesions they are ineffective. The therapeutic difficulties in these cases can be appreciated when we compare the deep urethritis to innumerable urethral fistulæ, with, at times, obliteration of their orifices. Slow methods of treatment should be employed. Massage is the more rational. Experience shows that it can suffice without the aid of other measures. Ionization, by softening the tissues, can render massage more effective. Mild methods should always prevail.

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The Fate of Living Bone Transplanted in Soft Tissue.—POKOTILO (*Archiv f. klin. Chir.*, 1910, xciii, 143) says that Barth, on the basis of his numerous and exact investigations, concluded that living bone which has been transplanted in the form of a completely isolated piece always disappears. It becomes replaced by connective tissue whether it has been covered by periosteum or not. This means that living bone undergoes the same fate as dead decalcified bone. Pokotilo had occasion to remove a transplanted plate of bone covered with periosteum, taken from the anterior surface of the tibia and employed to build up a sunken nose. It developed that the piece had been too small, so that a second operation was necessary, which was done ten days after the first. According to Barth, in this time the cells of the bone had died and the regenerating process had begun. The examination of the piece of bone showed that the osseous tissue had entirely disappeared and apparently that a piece of bone covered with periosteum is capable of producing bone.

Permanent Results of Osteoplasty in Animals.—FRANGENHEIM (*Archiv f. klin. Chir.*, 1910, xciii, 191) made an extensive study of this subject. He says that transplanted bone covered with periosteum retains the power of bone production even when transplanted into another animal of the same species. The bone formed from the transplanted periosteum was not as great in quantity as in the osteophytes which developed at the site of resection. The ossification is not symmetrical in the whole circumference of the transplanted piece. In no case was cartilage developed from the transplanted periosteum, while the periosteum of the remaining bone from which the piece was taken did form cartilaginous tissue. Periosteum covered living bone is the best material for transplantation, because the ability of the periosteum to form bone is regularly retained. The preservation of the medulla in the transplantation of bone in animals was shown to be an advantage, because it also was found to have the property of forming bone, and its preservation is recommended. When bone was transplanted without periosteum it was observed that a periosteum was regenerated from that of the bone to which it was transplanted. The periosteum, especially that of the proximal fragments, as well as that of the osteophytes which developed, extended around the transplanted bone, and after the

bladder wall is developed at the point of contact. The experimental condition corresponds clinically to certain forms of tuberculous cystitis secondary to the same condition in the uterus and tubes. The bladder may then be infected by the transperitoneal route as well as by the urethral and renal paths and by the blood and lymph vessels. The bladder rendered receptive to the bacillus of Koch by rectal tuberculosis, presents the maximum of tuberculous lesions upon the mucosa, the minimum in the muscularis and serosa. From a rectal tuberculosis the bladder is infected by the lymphatic path. There is no transperitoneal infection from the rectum to the bladder.

Inflammatory Strictures of the Prostatic Urethra.—GIROLAMO (*Ann. d. mal. d. org. gén.-urin.*, 1910, ii, 1580) says that inflammatory strictures of the urethra undoubtedly occur and are more frequent than is believed. Anterior and prostatic strictures have the same histological structure and the same evolution. A prostatic stricture is always associated with one or more strictures in the anterior canal. Their age differs, the anterior developing earlier than the prostatic strictures. The constriction of the anterior canal does not permit exploration of the condition of the posterior urethra. The caliber of the anterior urethra must be enlarged. The exploration of the prostatic urethra, to be successful, should be made with olivary metallic sounds conducted on a stylet. In the treatment of prostatic strictures, because of the slight distatability of this portion of the urethra and the co-existence of anterior strictures, it is necessary to employ exclusively guided circular electrolysis acting at the same time upon both strictures. Girolamo's results have been both positive and constant.

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The Treatment of Syphilis with Ehrlich's "606."—WECHSELMANN (*New York Med. Jour.*, 1910, xcii, 449) has treated over 600 cases with Ehrlich's arsenobenzol. He prefers the subcutaneous administration of a neutral suspension, and describes in detail the method followed by him. He says that such injections produce very little pain. On the third or fourth day there often appears a more or less marked swelling at the site of the injection. As a rule, a single injection of 0.3 gram was given, although a repetition of the dose was necessary in a few cases that recurred. These recurrences were not widespread and severe, such as occur after mercurial treatment, but only a recurrence of a few isolated local lesions. Isolated cases have remained refractory and required a second injection. Wechsellmann has observed no untoward effects, but he cautions that its use must be carefully guarded in patients with a weak heart. He also speaks of the possibility of damage to the optic nerve. He has not seen clear results in cases of progressive paralysis, although he thinks that a trial should be made in the early cases. He has noted rapid improvement in a number of cases of tabes.

Untoward By-effects after the Administration of Ehrlich's "606."—BOHAC and SOBOTKA (*Wien. klin. Woch.*, 1910, xxiii, 1132) complete the histories of 3 patients who had serious bladder disturbances after the administration of "606." In one of these patients complete retention of urine persisted for ten days and rectal tenesmus for some time longer. The reflexes which at first were absent had returned, but were sluggish. They add 4 more patients in whom the improvement obtained by the injection of "606" was very temporary. They do not believe that these untoward symptoms are explained by the hypothesis of methyl alcohol intoxication that is advanced by Ehrlich as the cause of them.

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the nurses and help in a hospital and consequently a large number of the infants, 2 of which died. One showed at autopsy a bronchial catarrh and an enlarged spleen. The other showed enlarged spleen and a purulent pericarditis containing the influenza bacillus. The bacterial proof was found in this whole series of cases. A study of these epidemics shows that a number of children in a ward may have the mild form of influenza. Others in the same ward have the severe febrile type and infect their adult nurses, who develop typical adult influenza and re-infect the lately convalescent infants. The chronic form, with fever continuing for several weeks, is found also in children. A large number of investigators seem to agree that in infants the symptoms and pathology in influenza are usually preëminent in the gastro-intestinal tract, that the spleen is usually enlarged, and that albuminuria is fairly constant. The above epidemics showed a large number of infants with influenzal infection of the gastro-intestinal tract, with vomiting, anorexia, loss of weight, and diarrhœa. This type proved especially fatal in children with an already weakened digestion. Influenza in infants and children shows the same protean symptomatology as is found in the influenza of adults.

Examination of the Blood Serum of Idiots by the Wassermann Reaction.—H. R. DEAN (*Lancet*, 1910, clxxix, 227) tested by the Wassermann reaction children and young adults suffering from idiocy and imbecility, in an institution in Potsdam. The tests were carried out strictly in accordance with the original method, watery extract of congenital syphilitic liver being used as antigen in all the cases. In 330 cases examined, 51, or 15.4 per cent., gave the positive reaction. Among these 51 cases were 7 which showed definite signs of syphilis. Two cases with definite signs gave a negative reaction. In 287 cases of simple idiocy of all grades, 44 were positive. In 14 cases of marked hydrocephalus, 4 were positive. One case of epilepsy proved positive. Four microcephalic cases were negative. The cerebrospinal fluid in 12 cases showing positive reaction with serum gave a positive reaction in but one case. Specimens of serum from the parents of 10 children showing positive reaction were tested with the following results: Out of 13 parents tested, 9 gave a positive reaction. In the case of one parent, a positive result was obtained fifteen years after, and in another case sixteen years after the birth of the syphilitic child. Grouping the 330 cases according to age showed the following results: 94 cases of ten years and under gave 21.27 per cent. positive reactions; 142 cases from eleven to fifteen years inclusive gave 16.9 per cent. positive reactions; 66 cases from sixteen to twenty years gave 6.06 per cent. positive reactions. This appears to show that the percentage of positive results diminishes rapidly after the sixteenth year, and that the average age of patients investigated is an important factor in any estimation of the prevalence of congenital syphilis. Numerous investigations tend to prove that the evidence of a positive serum reaction may be accepted even in the absence of the usual signs and symptoms of the disease. No symptoms or group of symptoms could be detected which were common to all the positive cases in Dean's series, so that if a causal relation exists between congenital syphilis and idiocy the condition which arises might be classed as parasymphilitic. Dean thinks it reasonable to

believe that many cases of idiocy should be classed with that form of syphilis which manifests itself alone by a selective toxic action on the elements of the central nervous system and to infer a causal relation between the two conditions.

Fatal Lead Poisoning in a Two-year-old Child from Sucking a Painted Bedstead.—HIRSCH (*Berl. klin. Woch.*, 1910, xlvii, 1820) reports the following case of lead poisoning in a two-year-old child. The child was brought to him with the history of continued vomiting and colic for six weeks. On the strength of this it had been treated at some clinic for whooping cough. The child vomited all food and was constipated. There was great pallor and emaciation and a scaphoid abdomen very painful to palpation. He elicited the history that for weeks the child had been gnawing and sucking at its bedstead, which had been painted by the child's father, who was employed in a dye and paint works. Inspection of the bed showed that the paint had been sucked off an area about 4 by 8 inches. Scrapings of the paint and a small portion of the child's feces both showed a large percentage of lead by chemical analysis. The child developed a weak, irregular pulse, and fatty renal epithelium and casts, with traces of lead, were found in the urine. Pneumonia developed and terminated fatally. No blue line was found on the gums. Autopsy and microscopic findings showed fatty degeneration of the myocardium, the liver, and especially the renal epithelium, with the presence of pneumonia. Hirsch points out the danger from bedsteads painted with any preparation containing lead or zinc, since children often have the habit of gnawing and sucking at their bedsteads. He advocates laws forbidding the employment of paints containing lead or zinc for such purposes.

Convulsions in the Course of Whooping Cough and their Treatment.—J. IBRAHIM (*Med. Klinik*, 1910, vi, 895) states that general convulsions belong to the most serious complications of pertussis, and that their occurrence usually indicates a bad prognosis. This complication is most frequent during the first year of life, and almost as frequent in the second. The convulsion usually starts during the height of the spasmodic cough. It is not always found in the severest cases of pertussis, but occurs as well in the mildest cases and when least looked for. It may appear unassociated with the paroxysm. The convulsions are eclamptic in character and rarely limit themselves to one group of muscles, but are generalized, involving the face and accompanied by unconsciousness. The length of the individual attack varies from a half to one minute, in the usual cases, to five minutes and even an hour in the severe forms. Consciousness may not be impaired between the attacks, but there is usually a stuporous, drowsy condition and often a rigidity of the neck and a condition similar to meningitis. Extremely high fever usually accompanies the convulsions, often 41° C., the highest recorded being 43.4° C. This high temperature is probably best explained by an involvement of the centres of heat production. Autopsies on fatal cases of this kind show no macroscopic changes in the brain and its membranes, except a slight congestion and extravasation of serum. Neurath found microscopically a meningeal infiltration, mostly of mononuclear leukocytes, hyperemia, and small meningeal

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The Surgical Treatment of Puerperal Septic Infection.—VINEBERG (*Surgery, Gynecology, and Obstetrics*, July, 1910), among others, reports 6 cases in which the pelvic veins were ligated in the treatment of puerperal septic infection. In one case of general sepsis the removal of the uterus was accompanied by ligation of the pelvic veins. This patient recovered. The second case, after abortion, was treated in the same manner, but developed diphtheritic infection of the throat and died. The third case, of chorio-epithelioma, infection developed and the uterus was removed. It was not possible to ligate the veins. Death followed in this case. Autopsy showed chorio-epithelioma with metastases in the lungs. In the fourth case the right ovarian vein was ligated and excised for puerperal septic thrombophlebitis. Death followed, and at autopsy the vena cava was found thrombosed at the site of entrance of the right ovarian vein, the thrombophlebitis extending down to the common iliac and tributaries. His fifth case was puerperal septic metritis from streptococcal infection and thrombophlebitis. Hysterectomy and ligation of the right spermatic vein were employed, followed by recovery. The right spermatic vein showed a degenerated clot filled with streptococci. The sixth case was that of acute puerperal septic infection with vaginal

pelvic suppurating sinus. Hysterectomy was done with high ligation of the right spermatic vein, followed by recovery. A seventh patient presented a traumatic rupture of the uterus, with severe bruising of the cervix, vaginal walls, and pelvic structures. Abdominal panhysterectomy was performed when it was found that a tear in the right fornix had extended into the base of the broad ligament, lacerating the veins, the blood being effused into the cellular tissues of the broad ligament, forming a blood tumor the size of the fetal head. This tumor was enlarging, and hemorrhage could not have ceased without operation. After removing the uterus the blood tumor was evacuated, the bleeding points ligated, and the pelvic cavity packed with iodoform gauze. The patient made a tedious but complete recovery.

Rupture of the Uterus after Cesarean Section.—DAHLMANN (*Monatsschrift f. Geb. u. Gyn.*, 1910, xxxii, Heft 1) reports 23 cases of rupture of the uterus after Cesarean section, and quotes 23 collected from the literature. He refers to Krukenburg's paper in 1886, reporting 27 cases of rupture of the uterus in subsequent pregnancies, when the uterus had not been sutured at the time of delivery. He estimates the frequency of rupture in these cases, where suture was not taken, as 50 per cent. Sanger, in 1895, reported 500 cases of Cesarean section, in which the uterus had been carefully sutured, without a case of rupture in the scar. Dahlmann's first case was that of a patient who had had Cesarean section because the pelvis was blocked by a myoma of the cervix as large as a fetal head. The section was performed by transverse incision across the fundus. At operation two myomatous tumors behind the uterus were removed and the peritoneum stitched over the base of the tumor. Recovery was complicated by some elevation of temperature, but was finally complete. About a year afterward the patient was brought in moribund, with the history that after normal pregnancy the uterus had ruptured during energetic pains in labor. On section the abdomen contained a large quantity of blood, and on the left side of the fundus there was a considerable tear, through which the placenta projected. In this tear were traces of catgut fiber, and there were some adhesions between the uterus and the omentum. On microscopic examination it was found that the placenta had attached itself opposite the portion of the uterine muscle where the fibers after the first operation had terminated in scar tissue and had not been regenerated as muscular fiber. The right half of the uterus was covered with many adhesions to the omentum, the right cornu being higher than the left. The breech of the child lay in the right cornu of the uterus. The rupture extended from the right cornu, upward and downward toward the left. The muscle had become very thin in this portion of the uterus and the attachment of the placenta had served to lessen its strength. Case II had Cesarean section because of an exaggerated varicose condition of the vagina, which made vaginal delivery exceedingly unsafe. Incision was made in this case across the fundus. The muscle was closed with silk. The patient had a utero-abdominal fistula after operation, through which some of the silk was discharged. The fistula finally closed. During subsequent labor rupture of the uterus occurred, and upon section adhesions were found between the omentum and the uterus.

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The Surgical Treatment of Puerperal Septic Infection.—VINEBERG (*Surgery, Gynecology, and Obstetrics*, July, 1910), among others, reports 6 cases in which the pelvic veins were ligated in the treatment of puerperal septic infection. In one case of general sepsis the removal of the uterus was accompanied by ligation of the pelvic veins. This patient recovered. The second case, after abortion, was treated in the same manner, but developed diphtheritic infection of the throat and died. The third case, of chorio-epithelioma, infection developed and the uterus was removed. It was not possible to ligate the veins. Death followed in this case. Autopsy showed chorio-epithelioma with metastases in the lungs. In the fourth case the right ovarian vein was ligated and excised for puerperal septic thrombophlebitis. Death followed, and at autopsy the vena cava was found thrombosed at the site of entrance of the right ovarian vein, the thrombophlebitis extending down to the common iliac and tributaries. His fifth case was puerperal septic metritis from streptococcal infection and thrombophlebitis. Hysterectomy and ligation of the right spermatic vein were employed, followed by recovery. The right spermatic vein showed a degenerated clot filled with streptococci. The sixth case was that of acute puerperal septic infection with vaginal

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The entire uterine contents had been expelled into the abdomen. The uterus was slightly contracted. The uterus had ruptured at the site of the incision, through which there was a slight hemorrhage. Supravaginal amputation was performed. The patient made a good recovery. On microscopic examination the muscular tissue at the fundus was found to be largely replaced by scar tissue. Adhesions of the omentum over that portion of the uterus had undoubtedly had some influence in the development of the pathological condition. The third case was that of a patient who had Cesarean section by transverse fundal incision for contracted pelvis. The uterus was closed by catgut. In the second labor section was again performed, and a laceration the size of a silver half dollar, without hemorrhage, was found, in the middle of the old scar in the fundus. Through this the unruptured foetal membranes were protruding. There was some blood in the abdominal cavity. There were adhesions between the omentum, the uterine scar, and the anterior abdominal wall. The uterus was opened in the median line and the child extracted, the uterine scar of the first operation being found exceedingly thin. The uterine extremities of the tubes were excised and the uterus and abdomen closed. The patient made a somewhat tedious recovery. It is interesting to note that these ruptures followed cases in which the transverse fundal incision had been practised, instead of the longitudinal incision in the median line.

The Use of Momburg's Tube in Ruptured Tubal Gestation.—STOLZ (*Zentralbl. f. Gynäk.*, No. 41, 1910) reports the case of a patient, aged thirty-four years, who had a bloody vaginal discharge. She complained of cramp-like pain in the left portion of the abdomen. On examination, the uterus was enlarged and in Douglas' pouch; on the left side there was a round tumor which was elastic and easily pushed away by the finger. A diagnosis of threatened abortion or left-sided tubal pregnancy was made. A few moments afterward the patient suddenly complained of violent abdominal pain and collapsed. The pulse was very rapid and irregular; and the patient seemed in danger of death. An ambulance was at once summoned, but an hour elapsed before its arrival. Stolz in the meantime applied cold compresses to the abdomen, counter-irritation over the chest, elevation of the pelvis, and injections of camphor, under which the patient somewhat improved. Before placing her in the ambulance Momburg's tube was applied, but the patient complained bitterly of pain, and at the fourth turn of the bandage became unconscious. The bandage was immediately loosened, when the patient became better. She was at once transported to hospital and operated upon, followed by recovery. The case is interesting for the unfavorable result of the application of the Momburg bandage. Fränkel suggests that in these cases the bandage interferes with the remaining circulation, and that the heart becomes suddenly almost emptied of blood. It is thought that in cases of extreme anemia in which there has been no time to perform saline transfusion, Momburg's method is not applicable.

Transperitoneal Cesarean Section for Face Presentation and Threatened Uterine Rupture.—GERSTENBERG (*Zentralbl. f. Gynäk.*, No. 41, 1910) reports the case of a patient with contracted pelvis, with an external

conjugate of 18 cm., pregnant with a good-sized child in face presentation. The patient was a multipara, and her previous children had been large. Labor was protracted, the head failing to descend and a contraction ring clearly developing. The patient was transported to hospital and section performed by the transperitoneal method. On opening the uterus, the amniotic liquid escaped and contained a considerable quantity of meconium. The head was delivered with the hand and one blade of the forceps. The incisions were closed and drainage was introduced at the lower end of the incision. The child was 54 cm. long, weighing 8½ pounds, and was deeply asphyxiated. It was revived, and made a complete recovery.

GYNECOLOGY.

UNDER THE CHARGE OF

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Clinical and Experimental Studies Concerning the Curative Action of Laparotomy in Peritoneal Tuberculosis.—F. HEIMANN (*Ztschr. f. Geburt. u. Gynäk.*, 1910, lvi, 34) Thirty-six cases of peritoneal tuberculosis were operated upon in the Küstner clinic from 1898 to 1908, all of which showed improvement when discharged from the hospital. Of 28 cases whose subsequent course he was able to follow, 13 had died and 15 were in perfect health, with not a single recurrence. He reports a case operated upon thirteen years previously for peritoneal tuberculosis, in whom a second operation was required for some other condition. The peritoneal cavity showed no evidences of the former disease, with the exception of a few pelvic adhesions. The symptoms may be obscure, and not infrequently an exact diagnosis can be made only at operation. As an aid to diagnosis, old tuberculin was of the greatest service, since in almost every case a positive local reaction, as expressed by more or less diarrhoea and abdominal pain, followed its injection. Pulmonary tuberculosis, unless actively progressive, is no contra-indication to operation; in fact, the pulmonary lesions seemed to be benefited thereby. At operation every case presented either the exudative-serous or dry form of tuberculosis. The operation consisted merely in opening the abdomen, with the evacuation of ascites. Irrigation with antiseptic solutions was not employed. The adnexa were not disturbed, even when presenting lesions suggestive of tuberculosis. Dysmenorrhoea and irregular menstruation, which were common symptoms, permanently disappeared after operation, and one patient gave birth to a healthy, full-term child. The administration of old tuberculin as a therapeutic agent was begun six or seven days after operation and continued for some time. Heimann believes that the good results can, in part, be ascribed to the tuberculin treatment. The conjunctival and von Pirquet reactions were used in the 15 cases regarded as cured;

the former was negative, the latter positive in every case. Laparotomy probably exerts a healing action by virtue of the hyperemia induced. As the result of his studies of experimental peritoneal tuberculosis in guinea pigs, the author concludes that the healing process which he observed is analogous to that in the human peritoneal cavity.

A Method of Anastomotic Repair of the Divided Ureter.—When the divided ureter is shortened to such an extent that implantation into the bladder or lateral uretero-ureterostomy cannot be performed satisfactorily, but in which the proximal and distal ends can be approximated, McLEAN (*Amer. Jour. Obst.*, 1910, lxii, 437) proposes a method which may be of service, although he has never tried it on the living subject. After carefully trimming the wounded ends at a right angle to the course of the ureter, a flexible ureteral catheter is passed downward through the lower end into the bladder and carried through the urethra by means of a Kelly cystoscope. The upper end is passed into the upper section of the ureter and the ends carefully approximated over the catheter with fine silk sutures. The peritoneum covering the ureter is closed. The catheter may be left in place for several days, and he suggests that a slight rotation may be advisable before attempting to withdraw it.

Contribution to the Operative Treatment of Benign and Malignant Tumors of the Ovary.—VANVOLEXEM (*Ztschr. f. Geburt. und Gyn.*, 1910, lxvii, 64) states that the debate during the Gynecological Congress at Kiel demonstrates divergent opinions concerning two important points in the operative treatment of ovarian tumors: the conservation or removal of the opposite ovary in malignant or suspiciously malignant tumors, and to what extent the vaginal route should be employed. The majority of operators lean toward radical excision. Glockner goes so far as to advocate removal of the second ovary in all unilateral tumors. Hofmeier recommends conservative principles even in the presence of carcinoma, while Pfannenstiel maintains a neutral position, being guided largely by the nature of the tumor presented. The author presents the histories of 7 cases observed in the Frangue clinic at Prague, which serve to illustrate his views and to form a basis for his conclusions. In unilateral malignant ovarian tumors the second, apparently sound, ovary, together with the uterus, should be removed after the plan of radical operation for uterine carcinoma. If a unilateral tumor shows suspicious evidence of malignancy, a microscopic examination should be made at the time of operation, or if this is not feasible, immediately afterward, and if carcinoma be present, the radical operation should be performed without delay. Examination of the gross specimen fails to reveal malignancy in many ovarian tumors which are proved malignant by the microscope. In benign ovarian tumors the opposite ovary should be carefully inspected and in certain cases a piece excised for microscopic study. While the abdominal operation is the procedure of choice, the vaginal route offers the easier access in exceptional cases, especially in well-advanced pregnancy and during birth.

Periodic Intermenstrual Pain.—The occurrence, symptomatology, pathology, and theories of causation of this affection are discussed by

HEANEY (*Surg., Gyn., and Obstet.*, 1910, xi, 361), based upon three cases which have come under his observation and 63 cases which he has collected from literature. That the complaint is comparatively rare, is proved by Rosner's statistics, occurring only 12 times among 2350 patients. The largest number of cases is found during the age of greatest sexual activity, twenty-five to thirty-five. Married women are more frequently affected. The pain appears at a time midway between the menstrual periods, in those of the twenty-eight-day type on about the fourteenth day after the onset of the last menstruation. Once established, it appears regularly each month unless amenorrhœa be present, when it is usually absent, only to reappear with the return of menstruation. The pain, as a rule, begins in one side of the abdomen, more frequently the left. At the onset the pain is spasmodic, with intervals of complete cessation; later, however, it extends over the whole lower abdomen and becomes more or less continuous. The duration is usually two or three days, although it may persist until the onset of menstruation, which is followed by complete relief. In a certain proportion of cases the pain is associated with a thin, watery, or mucoid discharge; or a scanty bleeding may be present. All the cases operated upon showed some pathological condition of the uterus or adnexa, fibroids and bilateral sclerotic and cystic ovaries predominating, which the author considers of important etiological significance. He mentions briefly the various theories advanced to explain this pain and concludes that it is due to an insufficient or abortive attempt at menstruation, the pain being a dysmenorrhœa due to degeneration and sclerosis of the ovaries and uterus.

Late Recurrence in Carcinoma of the Uterus.—The possibility of a late recurrence following operations for carcinoma of the uterus is shown by two cases reported by SEMON (*Med. Klinik*, 1910, vi, 1495). The first case was operated upon in 1900 for carcinoma of the cervix. Regular subsequent examinations covering a period of six years revealed no evidence of a recurrence. About two years later, pelvic pain and leucorrhœa developed, followed in about one year by a bloody vaginal discharge. On examination, a polypoid growth was found in the vagina together with a dense infiltration of the left paracolpium. Microscopic examination of the growth demonstrated carcinoma. This was probably a wound metastasis, although its lymphatic origin cannot be excluded. The second case had a superficial vaginal recurrence about five years after total extirpation of a myomatous uterus with very early carcinoma of the fundus. This recurrence, which showed an adenocarcinoma microscopically, probably resulted from inoculation at the time of the primary operation. These cases teach that patients should be kept under observation even longer than five years after operation. Beginning carcinoma in the fundus of a myomatous uterus can easily escape detection, since the distortion of the uterine cavity may render its position inaccessible to the curette. Should the clinical symptoms warrant a myomectomy rather than a hysterectomy, the uterine cavity should be carefully explored by palpation and curettage after removal of the tumor, to eliminate carcinoma.

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Sarcomatosis Kaposi, with Special Reference to its Visceral Localizations.—MARIANI (*Archiv f. Dermat. u. Syph.* 1910, xcvi, Heft 2 and 3) reports three new cases of this very interesting affection, in one of which lesions similar to those upon the skin were found in the tonsils, oesophagus, the small intestine, and the colon. Histological examination of these visceral lesions showed them to be essentially the same in structure as those upon the cutaneous surface. Inoculation of rabbits with particles of nodules taken from the skin shortly after death was practically without result. A study of these cases and of a large number of those found in literature leads Mariani to the following conclusions: Without doubt a certain predisposition, dependent upon race and climate, is present. No importance is to be attributed to chronic affections like syphilis, tuberculosis, functional and organic affections of the nervous system as causal factors, but certain chronic intoxications, such as alcoholism, are of importance in this relation. Certain general or circumscribed alterations of the vessels, such as arteriosclerosis, dilatation of the veins, tendency to hemorrhage, must be considered as predisposing elements. Chilling, trauma, oedemas of varying origin, and trophic disturbances of central origin must be regarded as occasional determining factors. Decided evidences of cachexia are observed in the acute or subacute cases (those running a course of one to three years) more frequently than is commonly supposed. The specific changes may affect not only the cutis, subcutis, and mucous membranes, but also the capsules and connective tissue of internal organs, periosteum, and bones. The blood does not share in any special manner in the disease; nor does the urine show any special changes. Treatment with arsenic has, in most cases, only a very transient effect; but it must be remembered that some authors have reported cases, observed for a long period of time, in which an actual cure has followed the use of this drug. The results of the x-rays are still doubtful. The author thinks the actual cause of the malady is probably a specific one.

A Peculiar Case of Keloid following Injections of Camphor Oil.—BRAENDLE (*Dermat. Zeitschrift*, 1910, xvi, Heft 12) reports the following interesting case of keloid: A woman who had received a number of injections of camphor oil in both arms and the right thigh during a severe attack of inflammation of the lungs, some three years later perceived at the points of injection hard nodules and cords in the skin

which gradually grew toward the surface and assumed a blue-red color. These lesions occasioned the patient no inconvenience except during changes in the weather, when she experienced drawing sensations. Although it was not possible to examine these nodules histologically, the author believes them to have been keloid. Braendle is likewise of the opinion that no real distinction exists between so-called spontaneous keloid and the traumatic variety, since both present practically the same picture clinically and histologically. The fact that after the extirpation of spontaneous keloid a scar keloid usually arises also speaks strongly in favor of the practical identity of the two varieties.

A Histological Study of Parapsoriasis.—VERROTTI (*Archiv f. Dermat. u. Syphilis*, 1910, xcvi, Heft 2 and 3) reports some extremely interesting histological findings in a case which he regarded clinically as an example of the parapsoriasis of Brocq. The case was characterized by an eruption closely resembling psoriasis, but differing from this affection in some important particulars. Microscopic examination of sections made of the eruption showed multiple circumscribed foci in the cutis, composed of dilated capillaries with proliferating endothelium, lymphocytes, and epithelioid cells, the lymphocytes preponderating at the margins of the foci, and in some cases well-developed giant cells with peripheral nuclei. There was a tendency to necrosis of some of these foci and evidences of a sclerosing process, according to the age of the focus. There was also a perivascular infiltration of lymphocytes and epithelioid cells about all the vessels of the cutis with a periphlebitis in the deeper and middle portions. The alterations of the epidermis consisted of a parakeratosis of the infundibular portion of the hair follicles and of the papillæ with disseminated and circumscribed collections of leukocyte nuclei between the parakeratotic layers resembling that seen in psoriasis. Search for tubercle bacilli gave negative results. The author, on the ground of his histological findings, considers the case a psoriasisform, papulosquamous tuberculide.

Arsenical Keratosis and Arsenical Cancer.—DUBREUILH (*Annales d. dermat. et de syphilographie*, 1910, No. 3) reports 4 cases of keratosis following the long-continued administration of arsenic, in one of which epithelioma of the finger supervened. In all 4 cases the keratosis was of the circumscribed variety and affected the palms and soles, appearing as small corn-like elevations. In 3 of the 4 cases it had been taken for psoriasis, in the one in which epithelioma occurred for twenty years almost continuously. The author concludes his report of these cases with an account of his microscopic findings in the finger amputated for epithelioma. The microscopic changes consisted of circumscribed thickenings of the corneous layer, atrophy of the derma, and complex alterations in the papillary layer. In no instance did he find any relation between the epidermic alterations and the sweat ducts. [The subject of arsenical cancer is one of very great interest, and is deserving of much more attention on the part of the general pathologist than it has yet received. There can no longer be any doubt that the long-continued administration of arsenic, especially in considerable doses, may produce epithelioma of the skin.—M. B. H.]

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF

WARFIELD T. LONGCOPE, M.D.,

DIRECTOR OF THE AYER CLINICAL LABORATORY, PENNSYLVANIA HOSPITAL, PHILADELPHIA.

The Internal and External Secretion of the Organism in Health and Disease in the Light of Vital Staining.—GOLDSMANN (*Verhandl. der Deut. Path. Gesell.*, 1910, 138) has made some remarkable studies of rats and mice that have received a vital stain prepared by Ehrlich and which is known as Isanamin blue. The stain is only effective when injected intravenously. Shortly after an injection the entire animal is stained blue, the same color is imparted to the aqueous humor and cerebrospinal fluid. A careful histological study of these blue animals has shown that only certain cells of the body are pigmented, and with the exception of the kidney where the cells of the tubuli contorti take a blue coloration, the pigmented cells are not those whose function it is to produce so-called external secretion, but rather the cells which may give rise to an internal secretion. In the liver only the Kupfer cells are pigmented; in the adrenal, aside from a few mesenchymal cells in the medulla, the cells of the zona glomerulosa and fasciculata; in the testicles the interstitial cells; in the ovary the granular cells of the follicle, and in the lung only a few mesenchymal cells about the blood-vessels and lymphatics. Neither the reticular cells lining the blood-vessel walls nor the red and white corpuscles are pigmented. The reticular cells of the lymph nodes take the blue stain. But richest in the blue cells is the subcutaneous connective tissue, the intermuscular tissue, the omentum, and the interstitial tissue of the intestinal tract. The blue cells in these regions are probably the "adventialzellen" of Marchand and the "wanderzellen" of Maximow. Under abnormal conditions the distribution of the pigment in an animal which has been vitally stained may vary. During pregnancy the animal becomes bleached, and an examination of the uterus and membranes shows an accumulation of pigmented cells in this region. A superficial wound is surrounded by an intensely stained zone. Section shows enormous numbers of blue mesenchymal cells surrounding and filling the granulating wound. Acute inflammation of the subcutaneous tissue and peritoneum is immediately followed by an accumulation of polymorphonuclear leukocytes and hyaline leukocytes, but later the inflammatory area is surrounded by blue cells which finally, after the destruction of the leukocytes, invade the necrotic mass. The study of tuberculosis in animals which are stained by Isanamin blue is of especial interest. In the liver the tubercles are surrounded by the blue cells as well as with plasma cells, which are readily differentiated, and with lymphocytes. The blue cells are the phagocytes, for tubercle bacilli may be discovered in their protoplasm. The Kupfer cells of the liver are not implicated in the process, but coincident with the accumulation of the blue cells about the tubercles in the liver, the cells of the same character which

under normal circumstances are so richly distributed along the lymphatics of the omentum disappear from this situation. The same thing occurs in necrosis of the liver produced by agents other than tubercle bacilli. Finally, about new growths the blue cells accumulate in great numbers. This method of studying experimentally induced lesions in the vitally stained animals has thus already thrown much light upon certain pathological processes and opens up a new and fertile field for investigation.

The Alterations of Metabolism and Pathology of the Blood in Chronic Lead Poisoning.—RAMBOUSEK (*Ztschr. f. exp. Path. u. Therap.*, 1910, vii, 686) has found that in rabbits which are poisoned by repeated doses of lead acetate there is a distinct alteration in nitrogen metabolism. This consists in an increase in the output of the total nitrogen. Since there are no alterations in the kidneys of rabbits suffering from lead poisoning, the increased secretion of nitrogen seems to be due to the direct influence of lead upon the metabolic processes. The results of these experiments correspond, therefore, to the clinical observations of Preti. Rambousek has found further that the red blood corpuscles from rabbits poisoned by lead acetate show a distinct decrease in resistance toward certain hemolytic agents, but not toward others. The three hemolytic agents employed were hypotonic salt solutions, saponin, and $\frac{1}{10}$ potassium hydroxide solution. Toward hypotonic salt solution there was no decrease in resistance of the red cells, but toward saponin and potassium hydroxide the decrease in resistance was marked.

HYGIENE AND PUBLIC HEALTH.

UNDER THE CHARGE OF

VICTOR C. VAUGHAN, M.D.,

PROFESSOR OF HYGIENE IN THE UNIVERSITY OF MICHIGAN, ANN ARBOR

Experimental Infection of Fowls with Anthrax by Feeding.—It has been generally recognized that birds are quite resistant to infection with anthrax, and that consequently there is but little or no danger of acquiring this infection by eating the flesh of these animals. HOFHEER (*Centlb. f. Bakteriologie*, 1910, iv, 434), after submitting this matter to an experimental inquiry, comes to the following conclusions: (1) In healthy, strong, adult fowls spontaneous infection with anthrax under ordinary conditions is exceedingly rare. (2) There is in birds no absolute immunity to anthrax. There is, however, an individual difference in their susceptibility to this infection. (3) Pigeons, ducks, and chickens may be infected with anthrax by way of the alimentary canal; pigeons more easily than ducks and chickens. (4) For artificial infection by way of the alimentary canal large amounts of the bacilli are necessary. (5) Inanition, other diseases, and youth are predisposing factors in this infection.

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Tuberculosis Among the Indians.—LIPPS (*Jour. Outdoor Life*, September, 1910) tells what the Government is doing to limit the spread of tuberculosis among its Indian wards. The Indian Department and the Smithsonian Institution have been coöperating in this work. Five reservations have been studied and the percentage of tuberculosis has been found to vary from 11.8 among the Mojavas of Arizona to 24.5 among the Sioux. Dr. Hrdlicka advances the following statements, holding that tuberculosis is a new disease among the Indians: "The presence of tuberculosis in any of its varieties among the Indians before the advent of the Whites is doubtful. It would seem, on the one hand, a most improbable exception that an entire large race of people should be exempt from a disease so prevalent and universal as tuberculosis; yet the evidence we thus far possess points strongly to its former rarity, if not absence. There is a great scarcity of phthisis or other forms of infection among the Indians in early writers. (2) There is an absence of remedies and specialized forms of other treatment for the disease among the Indians. (3) We are confronted with the universal testimony of the old Indians, who declare that such a disease was not known among them, or was rare, before they came in contact with the whites; and with the marked freedom of the old men and women from tuberculosis of the glands and bones. (4) Whites who have been long in contact with the Indians all speak of the great increase of the disease within their memory, and observations of explorers and scientific men indicate its lesser frequency as we proceed backward into the past. (5) There is thus far an absence of lesions that would be ascribed to tuberculosis in the bones of the Indians proceeding from prehistoric burials. (6) The Indian manifests to this day less immunity toward the disease than the White, pointing to its later introduction or spread. In addition, it should be recalled that the former life of the Indian, with his clothing, food, exercise, and consequent higher physical tone, were all safeguards against the disease and would have minimized its frequency, had the tubercle bacillus been present in this soil."

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